EKB500

DVR and Telemetry Keyboard

FW 1.5
New operating concept !

EverFocus®

1 SAFETY WARNINGS

- Do not place the device near to heaters, furnaces, other heat sources or under direct solar irradiation.
- Operate the device only in locations providing the tolerable operating temperature range 0°C~40°C.
- For cleaning, make sure the device is plugged off and only use a damp cloth without acid detergent.
- Install the device only in dry and dustproof surroundings. Protect the device against any liquid's penetration.
- Avoid the penetration of any artefacts, e.g. through ventilation slots.
- Do not open the device yourself. In case of malfunction, contact your local installer or dealer. Unauthorized opening of the device will annul the warranty claim!
- Use the device only for purposes described in this manual.
- Operate the device only with the power source indicated in the technical data.

$C \in$

ATTENTION! This is a class A product which may cause radio interference in a domestic environment; in this case, the user may be urged to take adequate measures.

FC

This equipment has been tested and found to comply to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful

interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

• Reorient or relocate the receiving antenna.

• Increase the separation between the equipment and receiver.

• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

• Consult the dealer or an experienced radio/ TV technician for help.

RoHS

This Product is RoHS compliant.

WEEE
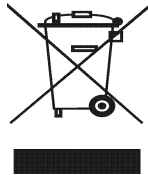
Your EverFocus product is designed and manufactured with high quality materials and components which can be recycled and reused. This symbol means that electrical and electronic equipment, at their end-of-life, should be disposed of separately from your household waste.
Please, dispose of this equipment at your local community waste collection/recycling centre.
In the European Union there are separate collection systems for used electrical and electronic product.
Please, help us to conserve the environment we live in!

Ihr EverFocus Produkt wurde entwickelt und hergestellt mit qualitativ hochwertigen Materialien und Komponenten, die recycelt und wieder verwendet werden können.
Dieses Symbol bedeutet, dass elektrische und elektronische Geräte am Ende ihrer Nutzungsdauer vom Hausmüll getrennt entsorgt werden sollen.
Bitte entsorgen Sie dieses Gerät bei Ihrer örtlichen kommunalen Sammelstelle oder im Recycling Centre.
Helfen Sie uns bitte, die Umwelt zu erhalten, in der wir lebenı

The information in this manual was current upon publication. The manufacturer reserves the right to revise and improve his products. Therefore, all specifications are subject to change without prior notice. Misprints reserved.

Please read this manual carefully before installing and using this unit. Be sure to keep it handy for later reference.

TABLE OF CONTENTS

2   INTRODUCTION

The EKB 500 universal keyboard was developed for both DVR remote control and telemetry control of speed domes and telemetry receivers. Ergonomic key alignment and the integrated jog/shuttle allow the convenient EverFocus DVR operation. 2 independent RS-485 interfaces enable installations with different telemetry protocols. The new firmware 1.5 allows easier operation also in complex systems with several DVR and PTZ -cameras.

2.1   FEATURES

- independent loop-through RS-485 ports, programmable with different protocols
- Protocol types: EverFocus, ED2200/2250 (Samsung Electr.), Pelco-D, Pelco-P, Panasonic, LG
- 3-axis joystick for convenient pan / tilt / zoom control
- Jog/Shuttle and separate keypad for DVR control
- Housing allows countersunk installation
- Integrated double-spaced LCD display

2.2   CHANGES FROM FIRMWARE 1.5 COMPARED TO FORMER VERSIONS

1. Main- , Call- and Matrix monitors are operated with same input procedures.
2. Cameras are operated with same input procedure for all types of monitors.
3. The keyboard detects automatically, if a camera has PTZ function or not and signalize PTZ devices with "PTZ" in the LCD display.
4. The keyboard detects automatically, if a selected monitor is a DVR main monitor and signalizes selected main monitors with "DVR" in the LCD display. All DVR related functions such as playback, search, and multiview are active then.
5. Telemetry control will switch automatically with selecting a camera, also for main monitor operation.
6. The former "DVR-mode" with DVR key is cancelled. DVR key is inactive.
7. Even if only Main monitors are installed in the system, all monitors and cameras of the system have to be defined in setup menu.

2.3   COMPATIBLE DEVICES

Digital video recorders:
EverFocus EDR series (except EDR400/1600)
EverFocus EDVR series
EverFocus PARAGON series
EverFocus EDSR100H/M / 400H/M / 600 / 900 /1600

Speed dome cameras:
EverFocus EPTZ series
EverFocus ED2200 / 2250
Samsung Electronics SCC641 / 643 / 6405
Panasonic
LG (boxed type Autofocus camera series)
VProtect VPTZ series
Pelco-D compatible PTZ devices
Pelco-P compatible PTZ devices

2.4 DELIVERY SCOPE

1 x EKB-500 universal keyboard
1 x 12 VDC power supply
1 x RJ-45 connector, 120 Ohm terminated
1 x RS-485 connection kit incl. connector box and 1 m connection cable
1 x manual
1 x packaging

3 OPERATING ELEMENTS
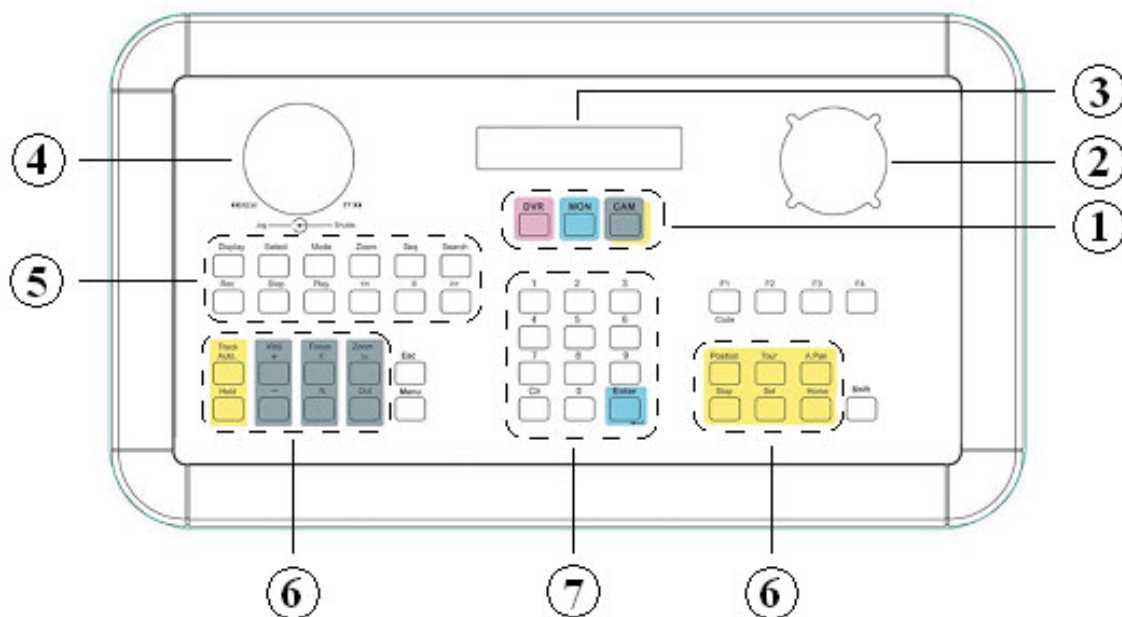
1. DVR, MON, CAM
 Operation mode toggle key:
DVR: from firmware version 1.5 inactive, function reserved
MON: Selection monitor
CAM: Selection camera

2. 3-axis JOYSTICK
    Joystick for speed dome and telemetry receiver control

3. LCD display
    Double-spaced LCD display for status message display

4. JOG / SHUTTLE
    Operating facility for playback and DVR menu control.

5. DVR control keys

6. Speed dome and telemetry receiver control keys

7. Numeric keypad, CLR, ENTER
    0 ~ 9: Numeric keypad for numeric entries
    CLR: : Toggle key for speed dome menu termination
    ENTER : Enter key for input confirmation.

4 KEYBOARD CONNECTORS

4.1 RS-485 PORTS

EKB-500 provides two independent RS-485 ports with 2 RJ-45 plugs each (loop-through).
Pin assignment:

Pin 1: 12 VDC
Pin 3: RS-485 +
Pin 6: RS-485 -
Pin 7: Ground

Pin assignment RJ-45 connector
connector box
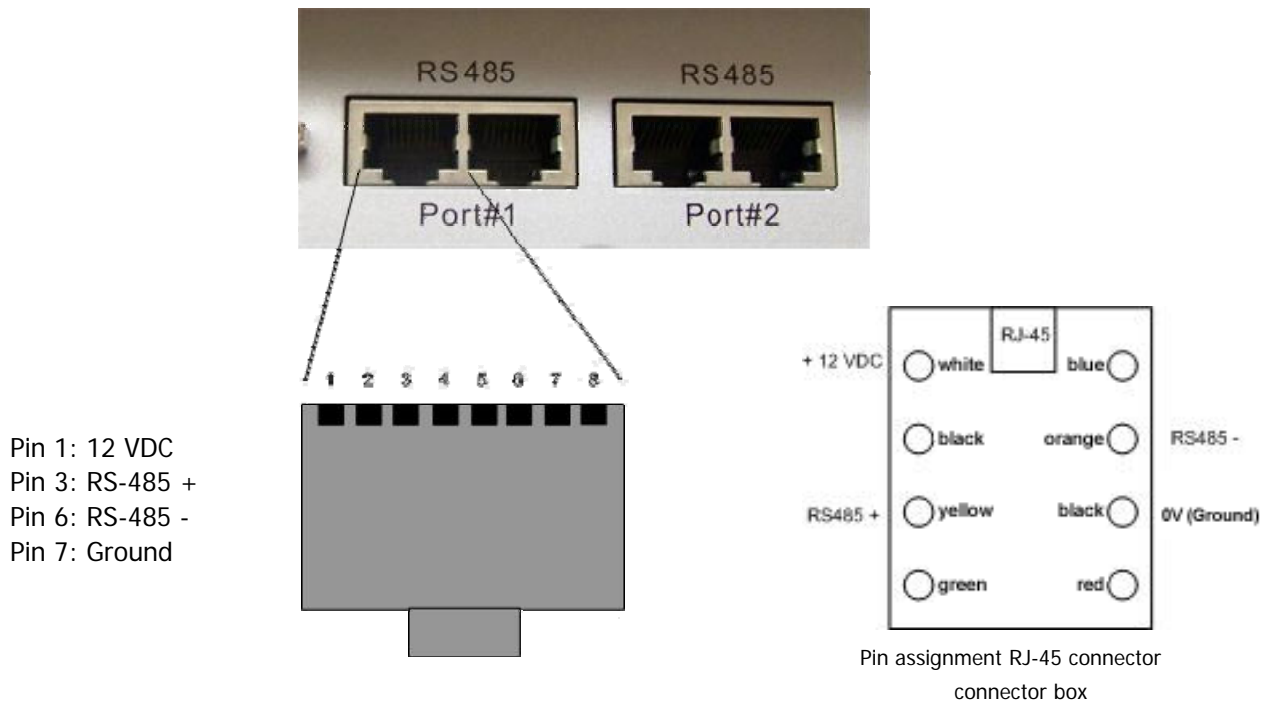
Delivery comprises a connector box for RS-485 and 12 VDC power supply connection enabling power supply connection either directly to the EKB 500 keyboard or through the connector box.

4.2 RS-232 CONNECTOR

The 9-pin Sub-D connector is used for service purposes, e.g. keyboard update with new firmware.

4.3 POWER CONNECTOR

Use the 5,5 mm socket for connecting the 12 VDC power supply. Centre pin is + 12 VDC. The power supply may be installed either through this socket or through the included connector box.

EKB500_ma_en_rev1 5_3

5 INSTALLATION

5.1 GENERAL RS-485 BUS INSTALLATION

EKB 500 uses an RS-485 simplex wiring; the signal is transferred via a single twisted pair line.
CAT5 network cable is recommended, UTP version (unshielded) is sufficient for normal application. A shielded cable should be used if the installed cables are expected to be highly susceptible to interferences.
The number of devices installed in one bus is limited to 32 (expandable through signal distributors), while max. 8 EKB 500 keyboards may be installed in one system.
Basically, the bus should be created by serial wiring.
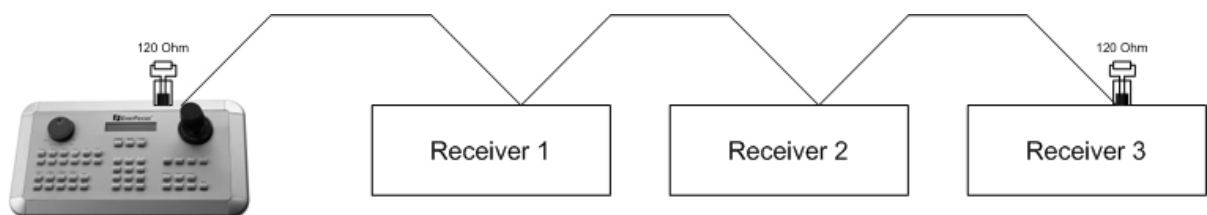
Maximum RS-485 bus cable length is 1200 m.
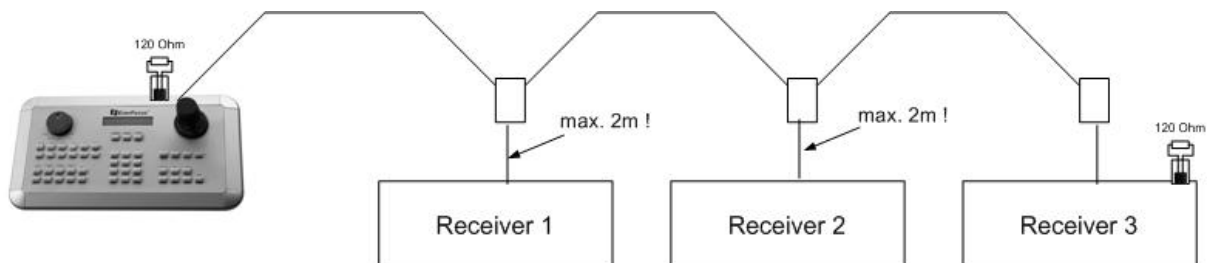
Maximum cable length from box to device is 2m using connector boxes.

Star wiring is permitted only with signal distributors.
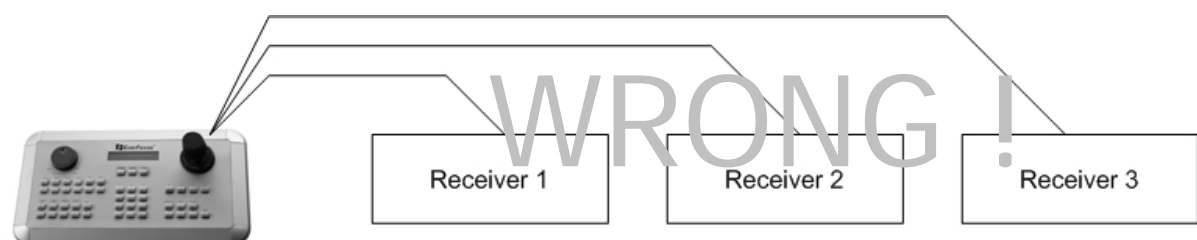
RS-485 signal distributors may be used for star wiring. The maximum system cable length can also be expanded by using these distributors, physically providing a new RS-485 bus with 1200 m cable length each at every distributor output.
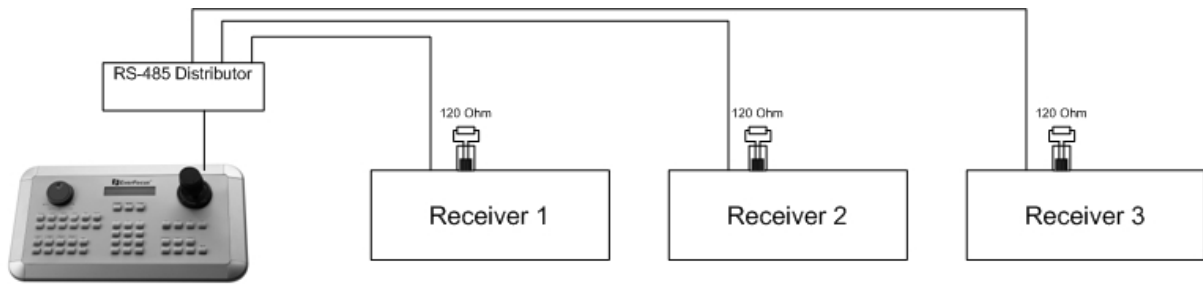
In case the maximum number of 32 bus participants is exceeded, the number of connected devices can be increased by using RS-485 distributors. Each distributor output physically provides one RS-485 bus which enables the additional connection of 31 further devices (the distributor output represents one bus participant itself).

The maximum system expandability depends on the RS-485 address range of the installed devices.
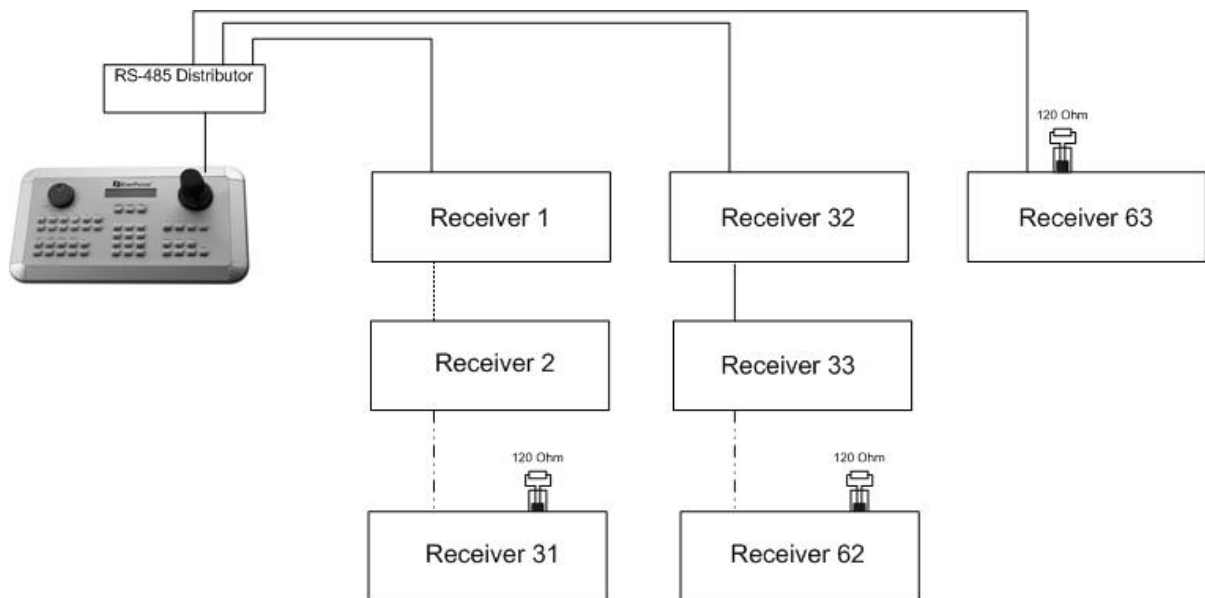
Attention: Most RS-485 signal distributors (e.g. EDA997A) are unidirectional! This means that the signal only flows from the input towards the outputs. Therefore, e.g. the interconnection of several EKB 500 keyboards is not possible with this signal distributor!

5.2 EPTZ 500 / 1000 / 3000 / 3500 SPEED DOME CAMERA CONNECTION
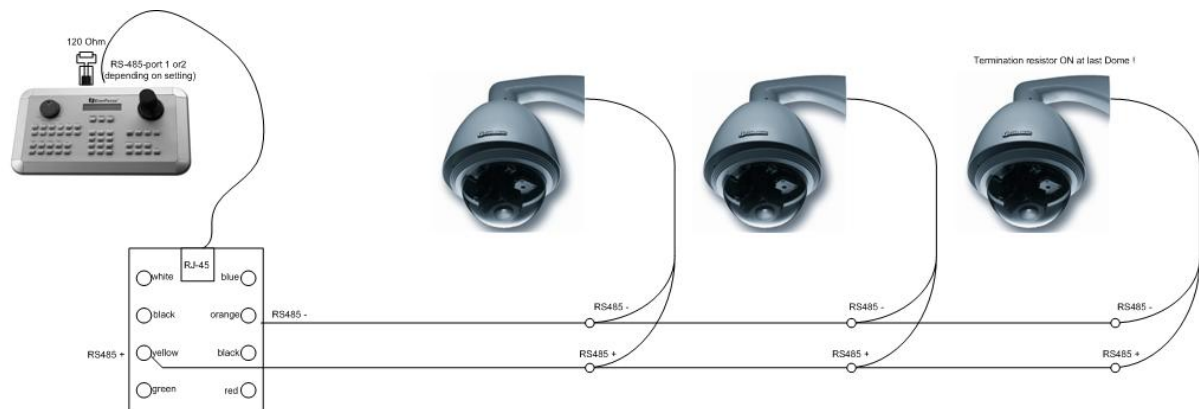
Applied protocol type: EVF2 (standard)

5.3 ED-2200, ED-2250, SAMSUNG SCC-641, SCC-643 , SCC-6405 CONNECTION
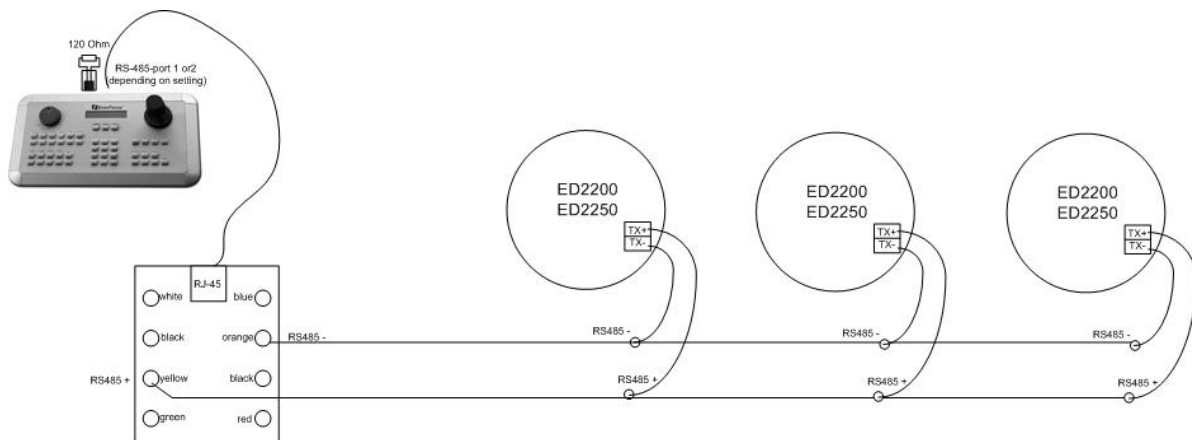
Applied protocol type: A-Type

5.4 CONNECTION OF PELCO-D / -P PROTOCOL-COMPATIBLE DEVICES
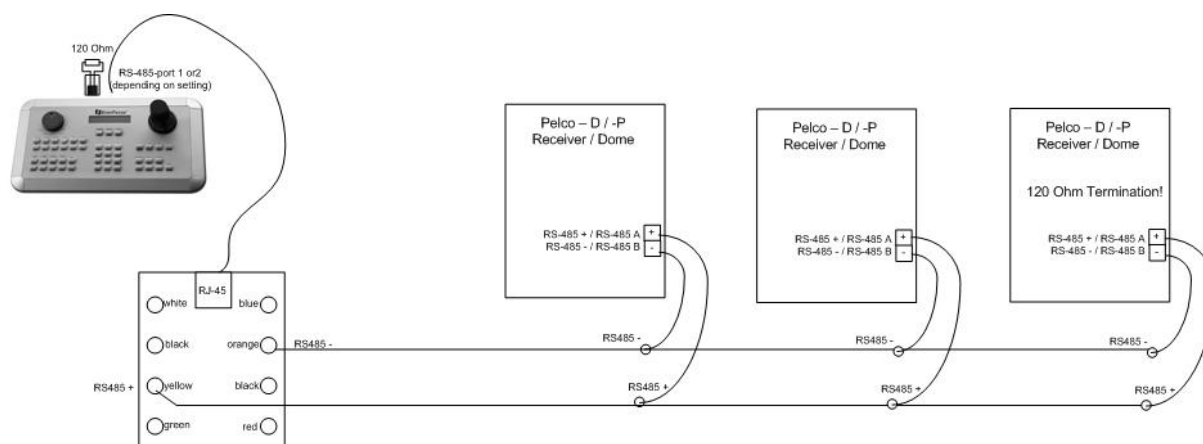
Basic functions of speed domes and telemetry receivers compatible to Pelco-D / -P protocol can be controlled with the EKB 500 keyboard if a simplex RS-485 connection option is provided. For general connection, please refer to the chart illustrated above.

Applied protocol type: Pelco-D / Pelco-P (in accordance with dome / receiver)

ATTENTION: Some Pelco-D / -P protocol domes and receivers require an address offset of -1 at the keyboard, i.e. the address assigned to the dome / receiver in the EKB 500 menu must be 1 below the address set in the dome / receiver itself!

5.5 EVERFOCUS DVR CONNECTION

The EKB 500 keyboard can control the following digital video recorders:
EDSR series (despite EDSR100 19" model)
EDR series (MPEG-4 series)
EDVR series
Paragon series

Installation with standard network cable:

For short distances, EKB 500 can directly be connected using a standard network cable (patch cable, uncrossed!).
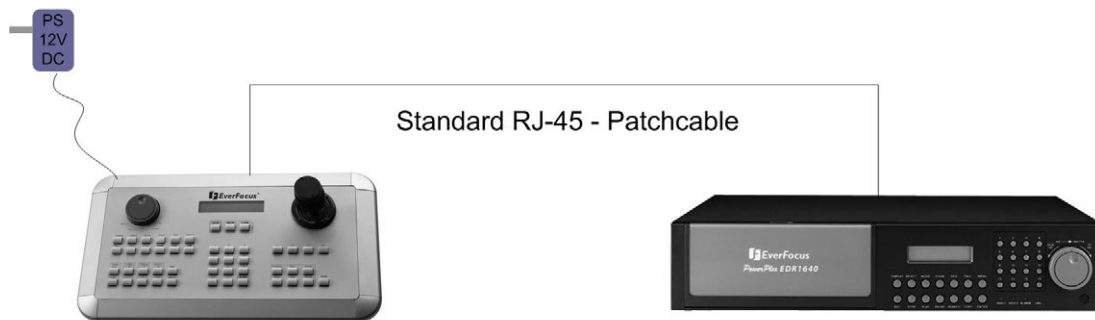
Connection with EDA998 connector kit:

Place the EDA998 connector kit at the RS-485 bus for easy DVR installation.

120 Ohm
RS-485-port 1 or2 (depending on setting)

RS-485-port 1 or2

Termination resistor at last DVR
120 Ohm
RS-485-port 1 and 2

RJ45 patchcable

RJ45 patchcable

RJ-45
white   blue
black   orange   RS485 -
RS485 +   yellow   brown
green   red

RJ-45
white   blue
black   orange   RS485 -
RS485 +   yellow   brown
green   red

RJ-45
white   blue
black   orange   RS485 -
RS485 +   yellow   brown
green   red

twisted pair cable, max. total cable length 1200m

Required system settings for DVR control:

DVR:
MENU > RS232/RS485:
RS485

BAUD RATE	9600 BPS	>	Baud rate must be the same as baud rate of the respective EKB 500 port (default setting or both keyboard and DVR is 9600)
STOP BIT	1		
PARITY	NONE		
DATA BIT	8		
RS232/RS485 ID	1	>	RS-485 address, must correspond to EKB 500 setting

DVR setting in EKB 500 menu

EKB-500: (for details, please refer to "6. MENU SETTINGS")
DVR setting:
MENU (SHIFT + MENU key) > DEVICE SETTING > DVR SETTING > ENTER:

DVR NAME: Selectable DVR number (independent of RS-485 address)
RS485 CONNECTED TO PORT: _ :   RS-485 port to which the DVR is connected (1 or 2)
RS485 Address: DVR RS-485 address
                                                  (Complies with DVR menu "RS232/RS485 ID")
                                                  Must be in accordance with DVR setting
DVR xxxx changed
[ENT] to save   Press ENTER key to confirm the settings

MENU > COM PORT SETTING > ENTER:
Port:_ (1 or 2)   Enter the RS-485 port to which the DVR is connected
Input the Port   (1 or 2)
BAUD: 9600<   Baud rate setting (according to DVR)
Protocol: EFV1   Protocol type, setting irrelevant for DVR control> ENTER
Port: 1 Changed
[ENT] to save   Press ENTER key to confirm the settings

For details and further settings (e.g. matrix monitor setup), please refer to menu description.

5.6   CONNECTION OF SEVERAL KEYBOARDS

If several keyboards (max. 8) are used in a system, the RS-485 bus has to be looped through from keyboard to keyboard.
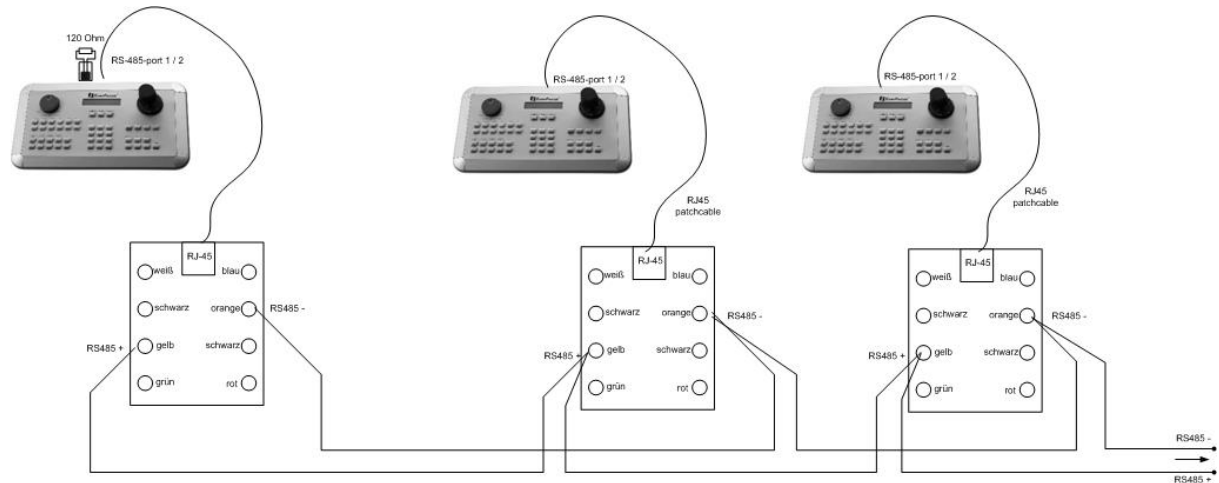
Using both RS-485 interfaces (port 1 and 2), the 2nd bus connection must be effected separately as illustrated above by means of EDA-998 connection kits.
Power supply can be installed either directly at the keyboard or with the included connection box.

5.7   START-UP

After having finished the installation work, switch on the power.
During initialisation (approx. 3 sec.), the firmware version is displayed.

```
Keyboard
Version 1.5
```

After initialisation, the following message is displayed:

```
CAM:0001 MON:0001  > DVR
____[ CAM / MON ]  > PTZ
```

6 MENU SETTINGS

After electrical installation and start-up, both the connected devices and the keyboard itself have to be set up.
Hold the SHIFT key and press the MENU key to enter the keyboard menu.

```
COM Port Setting
Device Setting
```

Use the joystick and the ENTER key for menu navigation. Use the ESC key to leave the menu and return from submenus.
The "<" icon at the end of the second line indicated further settings to be effected in this menu. Use the JOYSTICK ↓ ↑ to switch between the lines.
Selected settings are displayed blinking. Press ENTER to confirm the setting and ESC to return to the previous menu level.

6.1 MENU STRUCTURE

The LCD display menu shows the following structure:

```
┌─────────────────────┐
│ COM Port Setting    │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐        ┌─────────────────────────┐
│ Device Setting      │        │ Camera Setting          │
└─────────────────────┘        ├─────────────────────────┤
          │                    │ Monitor Setting         │
          │                    ├─────────────────────────┤
          │                    │ DVR Setting             │
          │                    ├─────────────────────────┤
          │                    │ Camera List & Delete    │
          │                    ├─────────────────────────┤
          │                    │ Monitor List & Delete   │
          │                    ├─────────────────────────┤
          │                    │ DVR List & Delete       │
          │                    ├─────────────────────────┤
          │                    │ Non-listed Device       │
          │                    └─────────────────────────┘
          │
          ▼
┌─────────────────────┐        ┌─────────────────────────┐
│ Keyboard setting    │───────▶│ Sub Keyboard Setting    │
└─────────────────────┘        ├─────────────────────────┤
                               │ MENU Password           │
                               ├─────────────────────────┤
                               │ Lock Password           │
                               ├─────────────────────────┤
                               │ Buzzer ON/OFF           │
                               ├─────────────────────────┤
                               │ Joystick Calibration    │
                               ├─────────────────────────┤
                               │ Keypad Test             │
                               ├─────────────────────────┤
                               │ Jog & Shuttle Test      │
                               ├─────────────────────────┤
                               │ Load default setting    │
                               ├─────────────────────────┤
                               │ Firmware update         │
                               └─────────────────────────┘
```
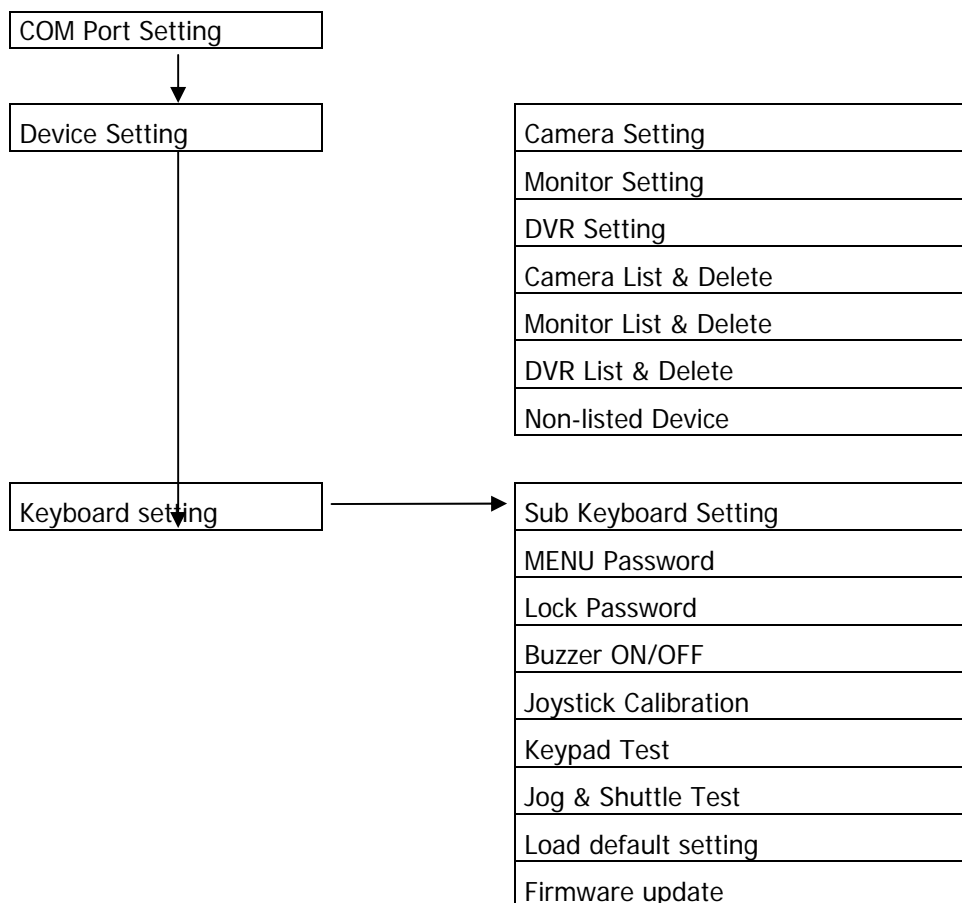
6.2 COM PORT SETTING - RS-485 INTERFACE SETTING

Define telemetry protocol type and transmission rate in this menu.

MENU > COM PORT SETTING > ENTER
Select port 1 or 2 and confirm with ENTER.

```
Port:_ (1 or 2)
Input the port.
```

Use the joystick▲▼ to change the value.
Selection: 1200, 2400, 4800, 9600 Baud.
Press ENTER to confirm the setting and ESC to cancel.

```
BAUD:9600<
[↑↓] to change
```

The next menu is used for telemetry protocol
setting.
Use the JOYSTICK ▼ ▲ to change the value.
Selection: EVF-1:   V-Protect Speed Dome
               EVF-2:   EverFocus EPTZ series
               A-Type: EverFocus ED2200/2250,
                               Samsung SCC-641/643/6405
               Pelco-D
               Pelco-P
               Panasonic
               L-Type   LG Electronics

```
Protocol:EVF-1
[↑↓] to change
```

ATTENTION: Protocol type setting is irrelevant for EverFocus DVR control; only baud rate setting is relevant!

Press ENTER to confirm the selection and ESC to cancel.

```
Port:1 Changed
[ENT] to save
```

6.3 DEVICE SETTING

Connection settings definition for controlled devices.

6.3.1 Camera setting (changed from FW 1.5)

Use this menu to define telemetry cameras and cameras to be assigned to DVR monitors. In difference to former EKB500 firmware versions this setting is valid for Main- and Call/Matrix - Monitors.

MENU > DEVICE SETTING > CAMERA SETTING > ENTER
Camera number 1 ~ 9999 (independent of RS-485 address!)
Press ENTER to confirm the setting and ESC to cancel.

```
Camera Name:___
```

Setup of the RS-485 interface connected to telemetry
cameras, port 1 or 2, 0 for OFF (fixed camera).
Enter 0 (off) for fixed cameras (numeric entry compulsory).
Press ENTER to confirm the setting and ESC to cancel.

```
RS485 Connected to
Port:_[0(off)],1,2]
```

If 1 or 2 was selected for PORT, the keyboard will automatically
recognise this camera as a PTZ device in operation mode.

Enter the RS485 Address of the PTZ camera (this menu
item is skipped for fix cameras).

```
RS485 Address:
001
```

Setup of DVR and video input to which the camera is connected
(requires a DVR installation in the „DVR Setting" menu)
Enter any value if no DVR is connected
(numeric entry compulsory).
Press ENTER to confirm the setting and ESC to cancel.

```
Video Connected to
DVR:___  CH:__
```

6.3.2 Monitor setting (changed from FW 1.5)

In this menu all monitors in the system have to be assigned to DVR monitor outputs. In difference to
former firmware versions all monitors have to be defined, including main monitors.
All monitors can only be managed by EKB 500 after definition in this menu. By this, an administration of
system access rights for this keyboard can be set up, as only monitors defined in this menu are available
for access.

MENU > DEVICE SETTING > MONITOR SETTING > ENTER

[MONITOR NUMBER], entry 1 ~ 99 (independent
of DVR monitor number).
Press ENTER to confirm the setting and ESC to cancel.

```
Monitor Name:___
```

The following menu item allows the monitor assignment
to the respective DVR's monitor output.

```
Video Connected to
DVR:___  Mon:__
```

Monitor types:

EKB-Display	DVR - Monitor out
Main	Main monitor
Call	Call - monitor
M1	Matrix - monitor 1
M2	Matrix - monitor 2
M3	Matrix - monitor 3
M4	Matrix - monitor 4

```
Monitor:1__ changed
[ENT] to save
```

Press ENTER to confirm the setting and ESC to cancel.

6.3.3 DVR Setting

Define the digital video recorders to be controlled by the keyboard in this menu.
DVRs can only be managed by EKB 500 after definition in this menu. By this, an administration of system access rights can be set up, as only DVRs defined in this menu are available for access.

DVR number, entry 1 ~ 999 (independent of
DVR RS-485 address).
Press ENTER to confirm the setting and ESC to cancel.

```
DVR Name:___
```

Setup of the RS-485 interface to which the
DVR is connected, port 1 or 2.
Press ENTER to confirm the setting or ESC to cancel.

```
RS485 Connected to
Port:_[1 or 2]
```

DVR RS-485 address (complies with the
DVR menu RS-485 ID).
Press ENTER to confirm the setting or Esc to cancel.

```
RS485 Address:
___
```

DVR type selection; select the type by channel number
of the DVR.
Use the JOYSTICK ↓↑ to adjust the selection.

```
DVR Type:
16Ch    <
```

Attention: For EDSR-400 DVR select "4ch-EDSR", not "4Ch"!

Press ENTER to confirm the selection or ESC to cancel.

```
DVR: 1__ changed
[ENT] to save
```

6.3.4 Camera List & Delete

This menu contains a list of all installed cameras as well as their settings. Furthermore, cameras can be deleted here.

MENU > DEVICE SETTING >
CAMERA LIST & DELETE > ENTER

```
Total 005 Cameras
[ENT] to view list
```

After pressing the ENTER key, the first camera is displayed.

```
Name RS485 DVR CH
012  2-014  002 03<
```

Displays: RS-485:   port number - RS485 address
        DVR: DVR to which the camera is connected
        CH: DVR video input

Press ENTER to delete the camera.
Press ESC to return to camera list without deleting.

```
Delete Camera 012
[ENT] to delete.
```

Use the JOYSTICK ↓↑ for camera switching.
Press ESC to cancel .

6.3.5 Monitor List & Delete

This menu contains a list of all installed monitors as well as their settings. Furthermore, monitors can be deleted here.

MENU > DEVICE SETTING >
MONITOR LIST & DELETE > ENTER

```
Total 005 Monitors
[ENT] to view list
```

After pressing the ENTER key, the first monitor is displayed.

Displays: Name: monitor number
            DVR: DVR to which the monitor is connected.
            CH: DVR monitor output

```
Name DVR  Mon
005   004  02  <
```

Press ENTER to delete the monitor.
Press ENTER again to delete the monitor and return to monitor list.
Press ESC to return to monitor list without deleting.

```
Del Monitor: 004
[ENT] to delete.
```

Use the JOYSTICK ↓↑ for monitor switching.
Press ESC to cancel.

6.3.6 DVR List & Delete

This menu contains a list of all installed DVRs as well as their settings. Furthermore, DVRs can be deleted here.

MENU > DEVICE SETTING >
DVR LIST & DELETE > ENTER

```
Total 008 DVRs
[ENT] to view list
```

After pressing the ENTER key, the first DVR is displayed.

```
Name RS485
004   1-023       <
```

Displays: Name: DVR number
            RS-485:   port number - RS-485 address

Press ENTER to delete the DVR.
Press ENTER again to delete the DVR and return to DVR list.
Press ESC to return to DVR list without deleting.

```
Del DVR: 004
[ENT] to delete.
```

Use the JOYSTICK ↓↑ for DVR switching.
Press ESC to cancel.

6.3.7 Non-listed devices

This function is currently not supported by EKB-500.
Use this menu to approve / disapprove the control of devices not defined in the menu.

MENU > DEVICE SETTING > NON-LISTED-DEVICE > ENTER

Keep the default setting "No Operation w/o list" at any time, as this function is reserved for future applications only.

```
Allow Operation w/o
list [↑↓] to toggle
```

```
No Operation w/o
list [↑↓] to toggle
```

6.4 KEYBOARD SETTING

This menu allows general keyboard and security settings.

6.4.1 Sub Keyboard Setting

This menu provides settings for multiple keyboard installations.
Keep the default value "0" for keyboard ID and number of sub keyboards for single keyboard installation.

```
This keyboard ID:0
(0_7,0 for master)
```

For multiple keyboard installations, the keyboards should be assigned to different IDs.
Enter the keyboard ID 0~7 (one master keyboard with ID 0 required in system) and confirm with ENTER.
If an ID for Subkeyboard (1~7) was entered, another menu page will open. Enter the total numbers of subkeyboards in the system.
Press ENTER to confirm and exit.

```
MAX Subkeyboards:3
(0_7,0 for master)
```

6.4.2 MENU Password

The setup menu access can be protected by password.

MENU > KEYBOARD SETTING > MENU PASSWORD > ENTER

Enter a max. 8-character password.
Press ENTER to confirm.

```
Input new Password:
_____
```

Repeat the password.
Press ENTER to confirm.

```
Repeat Password:
_____
```

For activating the password protection, use the JOYSTICK ▼▲ to select "YES" and press ENTER to confirm.

```
Protect setup menu
NO<[↑↓]to change
```

If password protection is activated, the setup menu access requires password entry.

```
Setup menu password
set and enabled.
```

6.4.3 Lock password

If this password is activated, the keyboard will lock after 30 seconds with no keyboard operation.
Any key press after locking will display a password inquiry at the LCD display.

MENU > KEYBOARD SETTING > LOCK PASSWORD > ENTER

Enter a max. 8-character password.
Press ENTER to confirm.

```
Input new Password:
--------
```

Repeat the password.
Press ENTER to confirm.

```
Repeat Password:
--------
```

For activating the password protection, use the
JOYSTICK ↓↑ to select "YES"
and press ENTER to confirm.

```
Enable Lock Password
NO < [↑↓] to change
```

Lock password is active.

```
Lock password
set and enabled.
```

6.4.4 Buzzer ON/OFF

MENU > KEYBOARD SETTING > BUZZER ON/OFF > ENTER

```
Buzzer Enabled
[↑↓] to toggle
```

Activate / deactivate buzzer.
Use the JOYSTICK ↓↑ for selection and press ENTER to confirm.

```
Buzzer Disabled
[↑↓] to toggle
```

6.4.5 Joystick calibration

MENU > KEYBOARD SETTING > JOYSTICK CALIBRATION > ENTER
Use this menu for joystick calibration.

Keep the joystick in idle position and press the ENTER key.

```
Release Joystick
and press [ENT]
```

Move the JOYSTICK towards all end stops including the
third axis (left/right rotation).

```
Move joystick
to corners.
```

For all X, Y, Z displays, the end stop message must be "OK".

```
X+000  Y+000   Z+000
X-000  Y-OK    Z-000
```

Press ESC to return to menu.

6.4.6 Keypad test

Use this menu for testing the keys' functionality.
MENU > KEYBOARD SETTING > KEYPAD TEST > ENTER

Press the keys to be checked.
If the keys work correctly, the LCD display shows the
key function in clear text.
Press ESC to return to menu.

```
[_ _ _ _ _ _ _ _ _ _] Pressed
[Esc] to exit
```

6.4.7 Jog & Shuttle test

Use this menu for testing the jog/shuttle's functionality.
MENU > KEYBOARD SETTING > JOG&SHUTTLE TEST > ENTER

Move the SHUTTLE (outer ring) towards the left and right
end stops. The display shows the 7 shuttle steps; reaching
the end stop, the display shows >>>>7 (right end stop)
resp. <<<<7 (left end stop).
Turn the JOG to the left / right. If the JOG works correctly,
the display counts from 0 to 9999.
Press ESC to return to menu.

```
Shuttle: >>>> 5
Jog:     9934
```

6.4.8 Load default setting

Use this menu to reset the keyboard to default setting.
MENU > KEYBOARD SETTING > LOAD DEFAULT SETTING> ENTER

Press ENTER to confirm the default setting loading.

```
Load default setting
Press [ENT] to load..
```

A second security dialogue appears.
Enter the figures 1, 2, 3 and press ENTER to confirm.
Press ESC to cancel and return to menu.

```
Input 123  to start
_ _ _ [ENT]
```

After confirmation, all settings are deleted and the keyboard is reset to default setting. A short buzzer blip
confirms the reset.

6.4.9 Firmware update

This function allows the loading of new firmware upon availability. A PC with serial interface and an
uncrossed RS-232 connection cable (pin 2, 3, 5 interconnected) is required.
MENU > KEYBOARD SETTING > FIRMWARE UPDATE> ENTER

A second security dialogue appears.
Enter the figures 1, 2, 3 and press ENTER to confirm.
Press ESC to cancel and return to menu.

```
Input 123 to start
_ _ _ [ENT]
```

7 OPERATION

7.1 NEW EKB-500 OPERATION CONCEPT (FROM FIRMWARE 1.5)

With firmware 1.5 the operation of keyboard will change.

Overview of the changes:

1. Main- , Call- and Matrix monitors are operated with same input procedures.
2. Cameras are operated with same input procedure for all types of monitors.
3. The keyboard detects automatically, if a camera has PTZ function or not and signalize PTZ devices with "PTZ" in the LCD display.
4. The keyboard detects automatically, if a selected monitor is a DVR main monitor and signalizes selected main monitors with "DVR" in the LCD display. All DVR related functions such as playback, search, and multiview are active then.
5. Telemetry control will switch automatically with selecting a camera, also for main monitor operation.
6. The former "DVR-mode" with DVR key is cancelled. DVR key is inactive.

7.2 MONITOR SELECTION

To select a monitor for operation, press

> [MONITOR NUMBER] > MON
or
> MON > [MONITOR NUMBER] > ENTER

```
CAM-001   MON-01
___[CAM/MON]
```

If the selected monitor is a DVR main monitor (depending on monitor setup),the LCD display will show ">DVR" in the upper right corner.

```
CAM-001   MON-04  >DVR
___[CAM/MON]
```

7.3 CAMERA SELECTION

To select a camera for operation, press

> [CAMERA NUMBER] > CAM
or
> CAM > [CAMERA NUMBER] > ENTER
or
> SHIFT (hold) > [CAMERA NUMBER]

```
CAM-001   MON-01
___[CAM/MON]
```

If the selected camera is a PTZ camera (depending on camera setup),
the LCD display will show ">PTZ" in the upper right corner.

```
CAM-005   MON-01  >PTZ
___[CAM/MON]
```

If a PTZ camera was selected together with a DVR main monitor, the display shows: ">DVR" and ">PTZ".

```
CAM-005   MON-04  >DVR
___[CAM/MON]       >
```

7.4   DVR PASSWORD INPUT

If password protection is active in DVR, then the password is entered with the same procedure as described in ch. 7.3 CAMERA SELECTION:

> [DVR NUMBER] > DVR
or
> DVR > [DVR NUMBER] > ENTER
or
> SHIFT (hold) > [DVR NUMBER]

7.5   DVR MAIN MONITOR OPERATION

If a DVR main monitor is selected, the LCD - Display will show "DVR" in upper right corner.
All DVR functions are active now as described below.

```
CAM-001   MON-01  >DVR
___[CAM/MON]
```

EKB-500 provides a separate keypad for DVR control. The keys correspond to the EverFocus DVR front panel keys as regard to labelling and functionality.
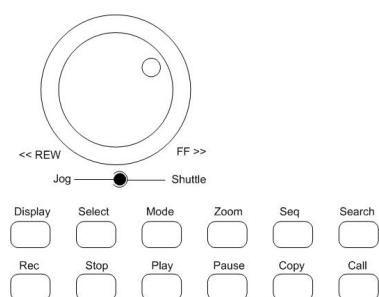
Besides these keys, further keys like MENU or ENTER are required for different functions.

NOTE: For browsing event list pages of DVR the SHUTTLE ring switches with the first step (~20° movement). Moving the SHUTTLE to the limit may block browsing pages for ~1 second.

NOTE: If password protection is active at the DVR, please use DVR key (hold) + [NUMBER] key for password input.

The range of functions varies, depending on the DVR model and firmware version.

The essential functions are described below; for further details please refer to the DVR manual.
Please note that this description doesn't provide a full function description of the EverFocus DVRs.

| Function	Keys / operation
DVR setup menu	**MENU**
Full screen	Input channel number; key **1** is delayed for approx. 1 second to enable input of channels 10~16
Electronical zoom	**ZOOM** switches ON / OFF (in full screen mode)
Multiscreen display	**MODE** switches between the available multiscreen displays
Record	**REC** starts the recording mode manually
Playback	**PLAY** starts the playback mode without search
Playback search	**SEARCH** opens the search menu
Fast forward / reverse playback	**SHUTTLE** right (fast forward) resp. **SHUTTLE** left (fast reverse) in 7 steps, depending on shuttle speed
Freeze image playback	**PAUSE** freezes the image playback
Freeze image forward / reverse	**JOG** left (reverse) resp. right (forward)
Stop playback / recording	**STOP** , first actuation stops the playback, second actuation stops the recording
Main monitor status display	**DISPLAY** switches between the available status displays
Sequence	**SEQ** starts the automatic switching mode
Call & matrix monitor setting	**CALL** enters the setup menu for call and matrix monitors
Multiscreen setup	Press **SELECT** to modify the individual camera screens within a multiscreen by entering the camera number
Video export	**COPY** opens the image export menu

7.6 PTZ OPERATION / SETUP

The operation of speed domes and telemetry receivers requires the setup of these devices in the EKB 500 menu. Settings within the following menus have to be adjusted:
MENU > COM PORT SETTING for interface and protocol type setting
MENU > DEVICE SETTING > CAMERA SETTING for speed dome / telemetry receiver connection settings
EKB 500 is optimised for EverFocus EPTZ series speed dome control. Furthermore, basic functions of other supported speed dome types can be operated.

The following operating elements are available for camera control:
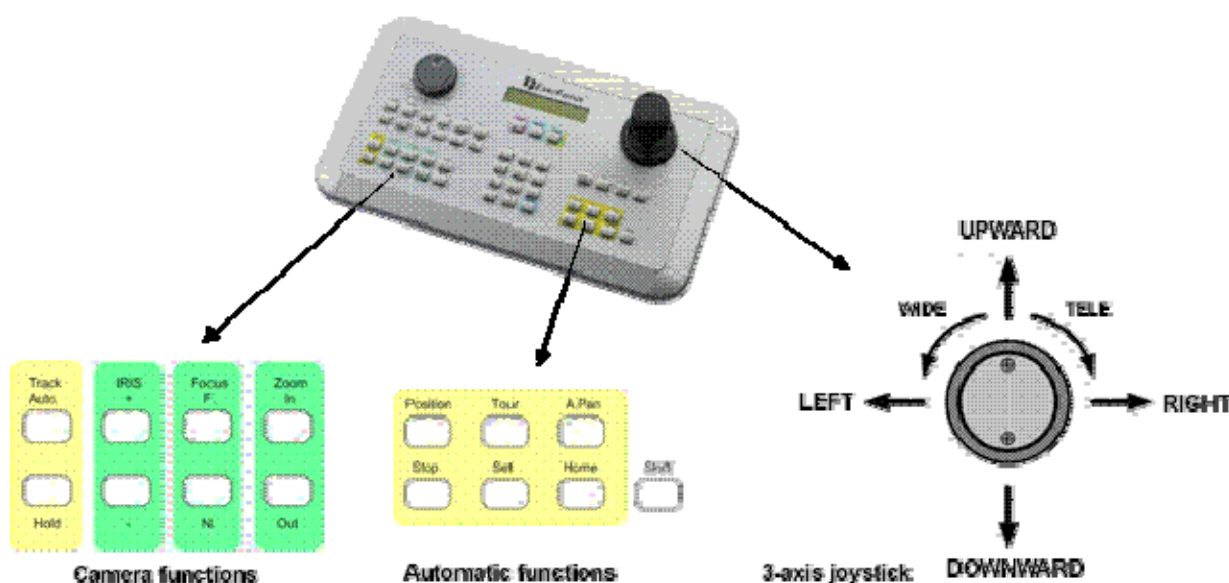
General key description:

TRACK AUTO/HOLD:	reserved for future applications
IRIS + / -:	manual iris control, + opens iris, - closes iris
FOCUS F. / N.:	manual focus, F. TELE; N. WIDE
ZOOM IN / OUT:	Zoom keys, same function as joystick rotation, IN = TELE, OUT = WIDE
POSITION:	start and save positions
TOUR:	start and save preset tours
A.PAN:	autopan, start and save automatic pan operation
STOP:	function key for programming termination
SET:	switch key for second key level (depending on function)
HOME:	start and save home position
SHIFT:	switch key for second key level (depending on function)

7.6.1 EverFocus EPTZ series

The following functions are available after
camera selection in CAM-MON mode:

```
CAM:0001   MON:0001
[CAM/MON/DVR]
```

EPTZ dome operation outline

Function	Keys / operation
Open dome menu	MENU or CAM (hold) + MENU (if Main monitor is selected)
Switch menu functions	JOYSTICK▼▲
Change menu settings	JOYSTICK ← →
Leave dome menu	CLR (hold) + MENU or menu item EXIT > ENTER
Pan – Tilt	JOYSTICK ▼▲ ← →
Zoom TELE / WIDE	TELE: ZOOM IN or JOYSTICK rotation to the right WIDE: ZOOM OUT or JOYSTICK rotation to the left
Focus	TELE: FOCUS F. ; WIDE: FOCUS N.
Iris +/-	Open iris: IRIS + / close iris: IRIS -.
Start position (preset)	Preset number + POSITION / POSITION + preset number > ENTER
Save position (preset)	SHIFT (hold) + POSITION > preset number > ENTER
Preset parameters	SET (hold) + POSITION
Delete preset	CLR (hold) + POSITION
Tour mode 1 (one way)	TOUR > number > ENTER
Tour mode 2 (back and forth)	SHIFT (hold)+ TOUR > number > ENTER
Setup tour	SET (hold) + TOUR
Start autopan	A.PAN > speed 1 ~ 239 > ENTER
360° autopan	SHIFT (hold) + A.PAN > speed 1 ~ 239 > ENTER
Setup autopan	SET (hold) + A.PAN , ENTER start / end
Start home position	HOME
Setup home position	SET (hold) + HOME , enter position and time definition
Alarm – preset link	F1 , enter alarm contact / preset definition
Delete alarm – preset link	CLR (hold)+ F1 > alarm 1~4 > ENTER

EKB500_ma_en_rev1 5_3

7.6.1.1 EPTZ on-screen display

Start EPTZ menu: If DVR Main monitor is selected ("DVR" in LCD - display):
CAM (hold) + MENU
If no DVR Main monitor is selected:
MENU or CAM (hold) + MENU

Switch between the settings: JOYSTICK ↓ ↑
Change the settings: JOYSTICK ← →
Leave the menu: Menu item EXIT > ENTER or
CLR (hold) + MENU

7.6.1.2 Positions (presets)

Save presets

SHIFT (hold) + POSITION
> enter preset number > ENTER

```
Camera:0001 Save to
Position:___[1-192]
```

Define preset parameters

SET (hold) + POSITION
> enter preset number > ENTER

```
Set Camera:0001
Position:___[1-192]
```

Enter the preset dwell time within preset-tours
from 1~239 seconds

> ENTER

```
Set Position:001
Dwell:___[1-239]
```

Preset travel speed from 1 ~ 239 seconds

> ENTER

```
Set Position:001
Speed:___[1-239]
```

Enter a preset name (up to 20 characters)

```
Title for position
_____
```

JOYSTICK ↓ ↑ changes the characters
Enter switches to next character
CLR deletes the current character

```
U
_____
```

Delete preset

CLR (hold) + POSITION
> enter preset number > ENTER

```
Camera:0001
Del Position:___
```

Start preset

POSITION > enter preset number > ENTER

```
Camera:0001 go to
Position:___[1-192]
```

7.6.1.3 Home position

The home position is the position (preset) which is approached after a pre-defined duration upon last speed dome operation.

SET (hold) + HOME
> enter inactivity duration 1 ~ 999 minutes
> Enter

```
Back to home if no
action for ___Minute
```

Use the JOYSTICK to approach the requested position
> ENTER

```
Move to home position
[ENT] to confirm
```

Use the JOYSTICK ↓ ↑ to activate the HOME function.

```
Auto Back Enabled
[↑↓] to toggle
```

7.6.1.4 Autopan

End / stop definition:

SET (hold) + A.PAN
Use the joystick to approach the requested position A,
enter the dwell time at this end stop in seconds
(1 ~ 239) > ENTER

```
Position A
Dwell:___[1-239]
```

```
Move to Position B
[ENT] to confirm
```

Use the JOYSTICK to approach the requested position B,
enter the dwell time at this end stop in seconds
(1 ~ 239) > ENTER

```
Position B
Dwell:___[1-239]
```

Activate A-B autopan
A.PAN > enter pan speed 1~ 239
> ENTER

```
Speed:___[1-239]
[ENT] to start.
```

Activate 360° autopan
A continuous 360° pan operation is also possible.
SHIFT (hold) + A.PAN
> enter pan speed 1~ 239 > ENTER

```
Speed:___[1-239]
[ENT] to start.
```

7.6.1.5 Preset tours

The EPTZ series supports up to 16 programmable preset tours with up to 16 presets each.
For these tours, 2 operation modes are available:
1) Mode 1 (One way): after approaching all programmed presets, the tour restarts at the first programmed preset.
Example: 1-2-3-4-5-6 > 1-2-3-4-5-6 > 1-2-3-4-5-....
2) Mode 2 (back and forth) > after approaching all programmed presets, the speed dome returns to the presets in reverse order.
Example: 1-2-3-4-5-6 > 5-4-3-2-1 > 2-3-4-5-6 > 5-.....

Preset tour programming
SHIFT (hold) + TOUR
> enter tour number 1 ~ 16 > ENTER

```
Set Camera:0001
Tour:__[1-16]
```

Enter the presets in correct order (max. 16) .

```
Add Position#01:___
[ENT / STOP]
```

Press ENTER to save and add further preset tours.
Press STOP to finish preset tour programming.

```
Tour:001 Pos#01:001<
[ENT] to save
```

Activation preset tour mode 1 (One way)

TOUR > enter tour number > ENTER

```
Camera:0001
Run Tour:__[1-16]
```

Activation preset tour mode 2 (back and forth)

SHIFT (hold) + TOUR > enter tour number > ENTER

```
Camera:0001
Run Tour:__[1-16]
```

7.6.1.6 Alarm contact settings

This function allows the EPTZ dome alarm contact assignment to presets or preset tours.

Program alarm / preset / tour link

F1 > enter alarm contact number 1 ~ 4

```
Link Alarm:_ [1-4] to
Position [↑↓]:___
```

Use the JOYSTICK ↓ ↑ to switch between preset (position) and preset tour (tour)

```
Link Alarm:_ [1-4] to
Tour  [↑↓]:___
```

Delete alarm / preset / tour link
CLR + F1 > enter alarm contact number 1 ~ 4
> ENTER

```
Del AlarmLink:_[1-4]
[ENT] to confirm
```

7.6.2 EverFocus ED 2200/2250, Samsung El. SCC-641/643/6405 operation

Required protocol type in "COM PORT SETTINGS": A-TYPE / SAMSUNG

7.6.2.1 On-screen display

Start menu:	If DVR Main monitor is selected ("DVR" in LCD - display):
	CAM (hold) + MENU
	If no DVR Main monitor is selected:
	MENU or CAM (hold) + MENU
Switch between the settings:	JOYSTICK ↓ ↑
Change the settings:	JOYSTICK ← →
Leave the menu:	CLR (hold) + MENU

7.6.2.2 Presets

Preset parameters are defined in the dome menu. Please refer to the manual of the respective model.

Save presets

SHIFT (hold) + POSITION
> enter preset number > ENTER

```
Camera:0001 Save to
Position:___[1-192]
```

Delete preset

CLR (hold) + POSITION
> enter preset number > ENTER

```
Camera:0001
Del Position:___
```

Start preset

POSITION > enter preset number > ENTER

```
Camera:0001 go to
Position:___[1-192]
```

7.6.2.3 Home position

The home position is the position (preset) which is approached after a pre-defined duration upon last speed dome operation.
Define the home position within the speed dome's on-screen display. For further details, please refer to the manual of the respective model.
The manual home position start is effected by starting the preset programmed for this function in the dome menu.
The HOME key is inactive with this protocol.

7.6.2.4 Autopan

End stop definition
Define both the end stops and the autopan speed in the speed dome's on-screen display. For further details, please refer to the manual of the respective model.

Start A-B autopan
A.PAN > enter pan speed 1 ~ 239
(any input, value is irrelevant due to speed being defined
in the dome menu) > ENTER

```
Speed:___[1-239]
[ENT] to start.
```

7.6.2.5 Preset tour / Pattern

Define patterns (stored motion sequences of 30 seconds each) in the speed dome's on-screen display. For further details, please refer to the manual of the respective model.

Activate pattern

TOUR > enter pattern number 1~3 > ENTER

```
Camera:0001
Run Tour:__[1-16]
```

Activate Preset Tour

TOUR > 0 > ENTER

7.6.3 Pelco-D / -P protocol compatible devices' operation

Required protocol type in "COM PORT SETTINGS": Pelco-D / Pelco-P (according to dome / receiver)
Implemented protocol is based and tested with Spectra IIITM series halfduplex RS-485.
Third party domes with implemented Pelco-D protocol may have different features and

ATTENTION: Some Pelco-D / -P protocol domes and receivers require an address offset of -1 at the keyboard, i.e. the address assigned to the dome / receiver in the EKB 500 menu must be 1 below the address set in the dome / receiver itself!

7.6.3.1 On-screen display

Start menu:	MENU
	or PRESET > 9 5 > ENTER
Switch between the settings:	SHIFT (hold) + JOYSTICK▼▲
Change the settings:	IRIS +
Leave the menu:	EXIT entry in OSD menu, confirm with IRIS +
alternative:	MENU
	or PRESET > 9 5 > ENTER

For exit of some sub-menus the key IRIS - is used.

7.6.3.2 Presets

Save presets

SHIFT (hold) + POSITION
> enter preset number > ENTER

```
Camera:0001 Save to
Position:___[1-192]
```

Delete preset

CLR (hold) + POSITION
> enter preset number > ENTER

```
Camera:0001
Del Position:___
```

Start preset

POSITION > enter preset number > ENTER

```
Camera:0001 go to
Position:___[1-192]
```

7.6.3.3 Autopan

End stop definition
Define both the end stops and the autopan speed in the speed dome's on-screen display. For further details, please refer to the manual of the respective model.

Start A-B Autopan
A.PAN > enter pan speed 1 ~ 239
(any input, value is irrelevant due to speed being defined in the dome menu)
> ENTER

```
Speed:___[1-239]
[ENT] to start.
```

ATTENTION: At some third party domes with implemented Pelco-D the Autopan starts with alternative command:
POSITION > 99 > ENTER

7.6.3.4 Frame Scan / Preset tour

Frame scan is a modified Autopan mode, the Autopan stops at defined positions for a programmed time. Settings for this are defined in the speed dome OSD manual. At some third party domes with implemented Pelco-D protocol this command starts Preset tour.

Start Framescan
POSITION > 98 > ENTER

7.6.3.5 Pattern / Preset Tour

Define patterns, which also can contain a preset tour, in the speed dome's on-screen display. For further details, please refer to the manual of the respective model.

Activate pattern

```
Camera:0001
Run Tour:__[1-16]
```

TOUR > enter pattern number > ENTER

ATTENTION: At some third party domes with implemented Pelco-D the Preset tour starts with alternative command:
POSITION > 98 > ENTER

7.6.4 LG protocol compatible devices' operation

EKB 500 supports the following functions for boxed type autofocus cameras with LG RS-485 protocol:

Zoom +/-	> ZOOM IN / > ZOOM OUT or turn JOYSTICK left / right
Focus near/far	> FOCUS N. / > FOCUS F.
OSD menu ON/OFF	> MENU
Navigation in OSD - menu	> ZOOM IN / > ZOOM OUT / FOCUS N. / > FOCUS F.
IR cut filter ON (day mode)	> POSITION > 88 > ENTER
IR cut filter OFF (night mode)	> POSITION > 89 > ENTER
IR cut filter Auto	> POSITION > 90 > ENTER
Set Camera ID (RS-485 address)	> F1 > [NUMBER] > ENTER

```
Set Camera New Addr:
___[0-255]
```

7.6.5 Panasonic protocol compatible devices' operation

EKB 500 supports the following functions for cameras with Panasonic RS-485 protocol.
Limitations for special camera functions are possible.
Please consult the speed dome user manual for usage of special keys such as F1 ~ F4.

Fixed values for communication settings:		
	Wait time:	OFF
	Delay time:	OFF
	Interface:	No parity, 8 data bit, 1 stop bit
	Alarm data:	POLLING

8 SPECIFICATIONS

Keys	48
Joystick	3-axis
Display	2 lines with 20 characters each
RS-485	2 independent RS-485 ports with 2 RJ-45 sockets each
RS-232	1 x RS-232, Sub-D9 socket (service)
RS-485 protocols	EverFocus, ED2200/2250, Samsung Electr., Pelco-D, Pelco-P LG, Panasonic
Power source	12 VDC +-10%, via power supply 110/230 VAC
Power consumption	10 W max.
Ambient temperature	0°C ~ 40°C, non-condensing
Dimensions	360 (W) x 110 (H) x 200 (D) mm
Weight	1,5 Kg

EKB500_ma_en_rev1 5_3

9 APPENDIX A: FACTORY SETTINGS

PORT settings:
Port 1: 9600 baud, EverFocus
Port 2: 9600 baud, EverFocus

DEVICE SETTINGS / DVR
DVR1: 16Ch., port 1 Addr.1
DVR2: 16Ch., port 1 Addr.2
DVR3: 16Ch., port 1 Addr.3
DVR4: 16Ch., port 1 Addr.4
DVR5: 16Ch., port 1 Addr.5
DVR6: 16Ch., port 1 Addr.6

DEVICE SETTINGS / MONITOR
Mon1: connected to DVR1, MAIN monitor
Mon2: connected to DVR1, CALL monitor
Mon3: connected to DVR1, Matrix 1
Mon4: connected to DVR1, Matrix 2 (M2)
Mon5: connected to DVR1, Matrix 3 (M3)
Mon6: connected to DVR1, Matrix 4 (M4)
Mon7: connected to DVR2, MAIN monitor
Mon8: connected to DVR3, MAIN monitor
Mon9: connected to DVR4, MAIN monitor
Mon10: connected to DVR5, MAIN monitor
Mon11: connected to DVR6, MAIN monitor

......

DEVICE SETTINGS / CAMERA
Cam1: connected to DVR1, input1, PTZ-ID: 1, Port 1
Cam2: connected to DVR1, input2, PTZ-ID: OFF
Cam3: connected to DVR1, input3, PTZ-ID: OFF

....

Cam16: connected to DVR1, input16, PTZ-ID: OFF

Cam17: connected to DVR2, input1, PTZ-ID: OFF

....

Cam32: connected to DVR2, input16, PTZ-ID: OFF
Cam33: connected to DVR3, input1, PTZ-ID: OFF

....

Cam48: connected to DVR3, input16, PTZ-ID: OFF

EKB500_ma_en_rev1 5_3

Cam49: connected to DVR4, input1, PTZ-ID: OFF

....

Cam64: connected to DVR4, input16, PTZ-ID: OFF

Cam65: connected to DVR5, input1, PTZ-ID: OFF

....

Cam80: connected to DVR5, input16, PTZ-ID: OFF

Cam81: connected to DVR6, input1, PTZ-ID: OFF

....

Cam96: connected to DVR6, input16, PTZ-ID: OFF

PASSWORDS: disabled
BUZZER: ON

EverFocus Electronics Corp.

Head Office:
12F, No.79 Sec. 1 Shin-Tai Wu Road,
Hsi-Chih, Taipei, Taiwan
www.everfocus.com.tw

USA Office:
1801 Highland Ave. Unit A
Duarte, CA 91010, U.S.A.
www.everfocus.com

European Office:
Albert-Einstein-Straße 1
D-46446 Emmerich am Rhein, Germany
www.everfocus.de

China Office:
Room 609, Technology Trade Building,
Shandgdi Information Industry Base,
Haidian District, Beijing,China
www.everfocus.com.cn

Japan Office:
1809 WBG MARIBU East 18F,
2-6 Nakase.Mihama-ku.
Chiba city 261-7118, Japan
www.everfocus.com

EverFocus®